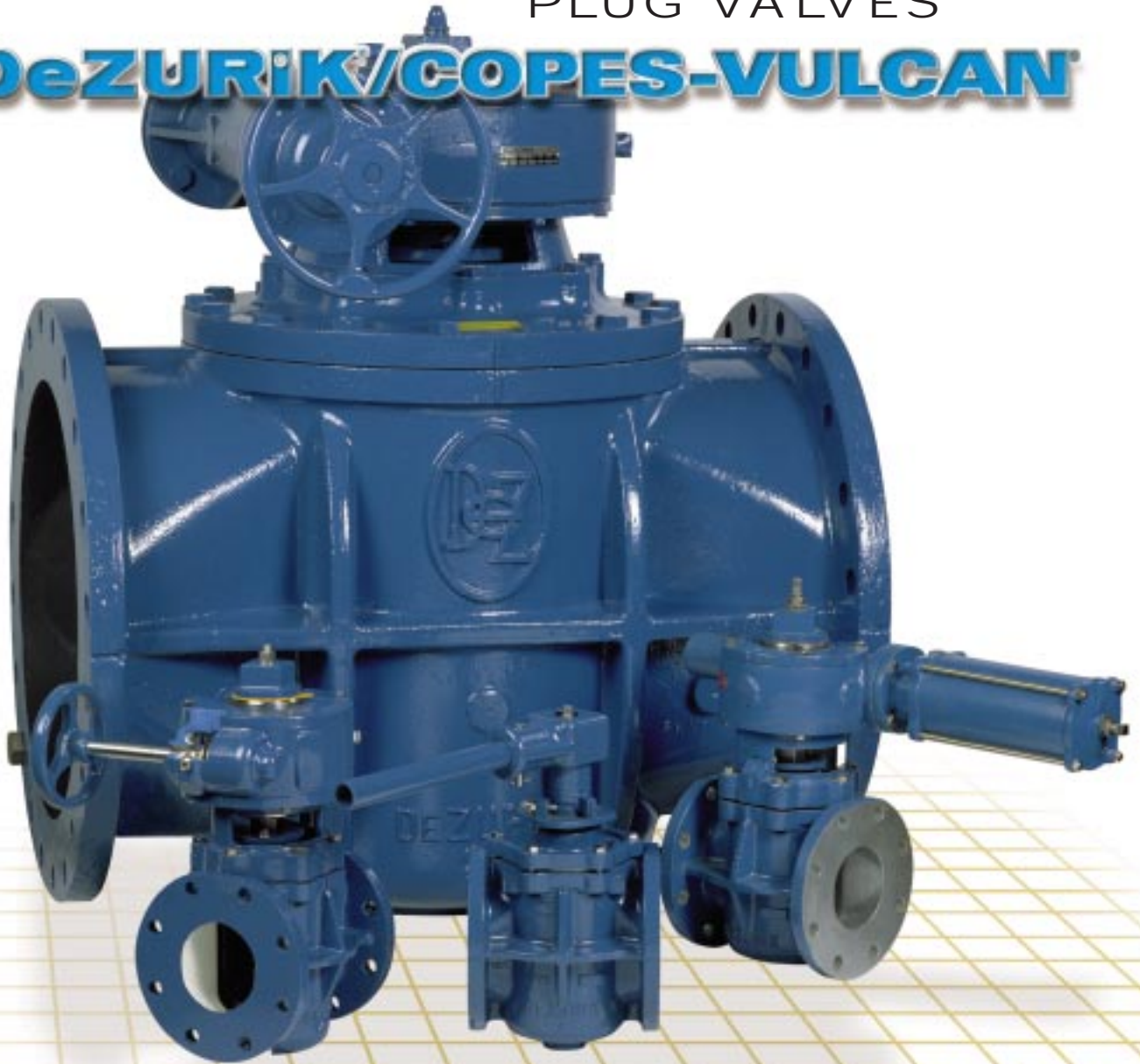


**DeZURIK**  
**COPES-VULCAN**  
A unit of **SPX** Corporation

4" (100mm)  
& LARGER  
PEC ECCENTRIC  
PLUG VALVES

**DeZURIK/COPES-VULCAN**





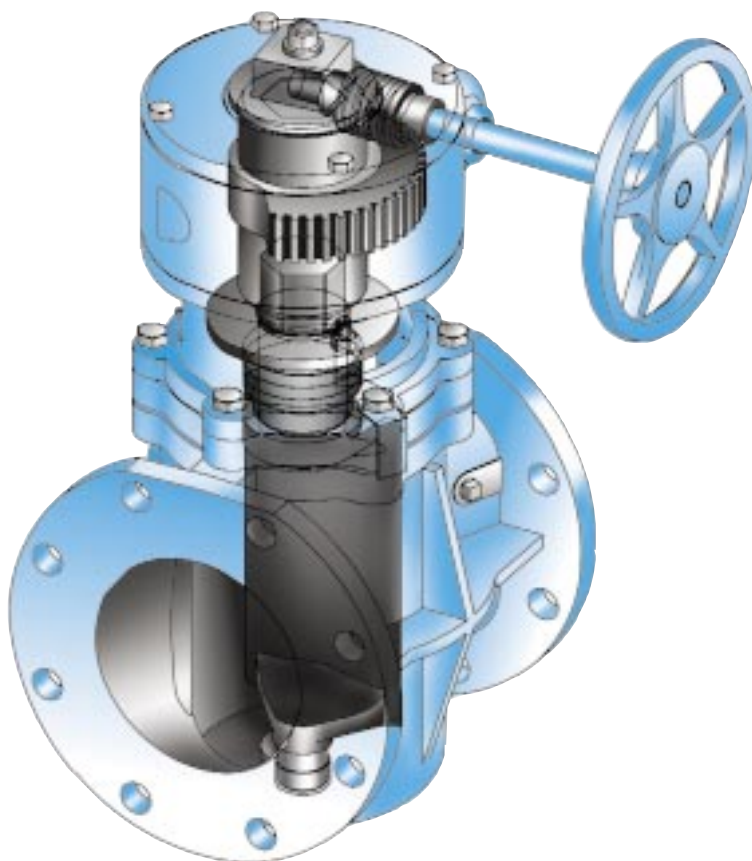
## Defining the DeZURIK/Copes-Vulcan Difference

DeZURIK was founded in 1925 in Sartell, Minnesota. The company's first products were designed to solve problems and increase production capabilities of pulp and paper mills. Over the past 75 years, DeZURIK/Copes-Vulcan developed a wide variety of valve styles to meet the application requirements of water and waste-water treatment, pulp and paper, chemical and petrochemical, power, mining, steel, HVAC and other process industries. Today, DeZURIK/Copes-Vulcan products are recognized worldwide for quality and performance.

In thousands of installations worldwide, DeZURIK/Copes-Vulcan Eccentric Plug valves have a proven record of long-term reliability. Originally, the DeZURIK/Copes-Vulcan Eccentric Plug valve was developed by Matt DeZURIK in 1928. Through our unmatched experience, a wide variety of value-added design features and supreme economy have made it the preferred choice of engineering, operations and maintenance personnel.

## ISO 9001/9002 Certification

DeZURIK/Copes-Vulcan's ISO certifications represent its commitment to ongoing quality improvements and dedication to higher levels of performance. DeZURIK/Copes-Vulcan received its first certification in 1993, and continues to improve quality in all aspects of design, manufacturing, order processing and service to DeZURIK/Copes-Vulcan customers.





## Certified Cast Iron Foundry

DeZURIK/Copes-Vulcan's manufacturing capabilities include its own ISO 9002 certified iron foundry. The foundry operation allows direct control of critical operations and ensures consistent, high-quality castings.

## Applications

DeZURIK/Copes-Vulcan Eccentric Plug valves are designed for applications throughout water and wastewater treatment plants, water distribution systems, power and chemical plants and HVAC applications as well as hot-process applications and mining operations. Eccentric Plug valves can handle a wide variety of liquids, gases and solids, including water, air, petroleum, paint and non-corrosive chemicals.

## Corrosion-Resistant Bearings

Heavy-duty bearings resist corrosion to prevent binding and ensure lasting easy valve operation without lubrication. These rugged stainless steel bearings are furnished in the top and bottom journals of all valves.

## Long-Life Stem Seals

A variety of stem seal materials provide maintenance-free sealing that matches valve performance and ensures long life and reliability. Multiple v-ring packing rings in 4–72" (100–800mm) valves provide a reliable seal that rarely requires adjustment or replacement.



## Resilient Plug Facings for Dead-Tight Shutoff

All Eccentric Plug valves are available with a variety of resilient plug facings suitable for temperatures up to 450°F (232°C). Resilient-faced plugs provide dead-tight shutoff without the use of sealing lubricants. Even if small solids are trapped between the plug and seat, the resilient facing provides tight shutoff and prevents seat damage. The resilient plug design provides drip-tight shutoff on wet service applications up to the full pressure rating of the valve with pressure in either direction. Materials available include chloroprene (CR), acrylonitrile-butadiene (NBR), hard natural rubber (NRH), chloro-isobutene isoprene (CIIR), hard rubber with chloroprene overlay (NRCCR), chloro-sulfonyl polyethylene (CSM) and fluoro rubber (FKM). All-metal plugs are also available for high-temperature or throttling applications where dead-tight shutoff is not required.



## Eccentric Action

DeZURIK/Copes-Vulcan Eccentric Action and Resilient Plug facings ensure lasting dead-tight shutoff. As the eccentric plug rotates 90° from open to closed, it moves into a raised eccentric seat.

In the open position, the segmented plug is out of the flow path. Flow is straight through, flow capacity is high.

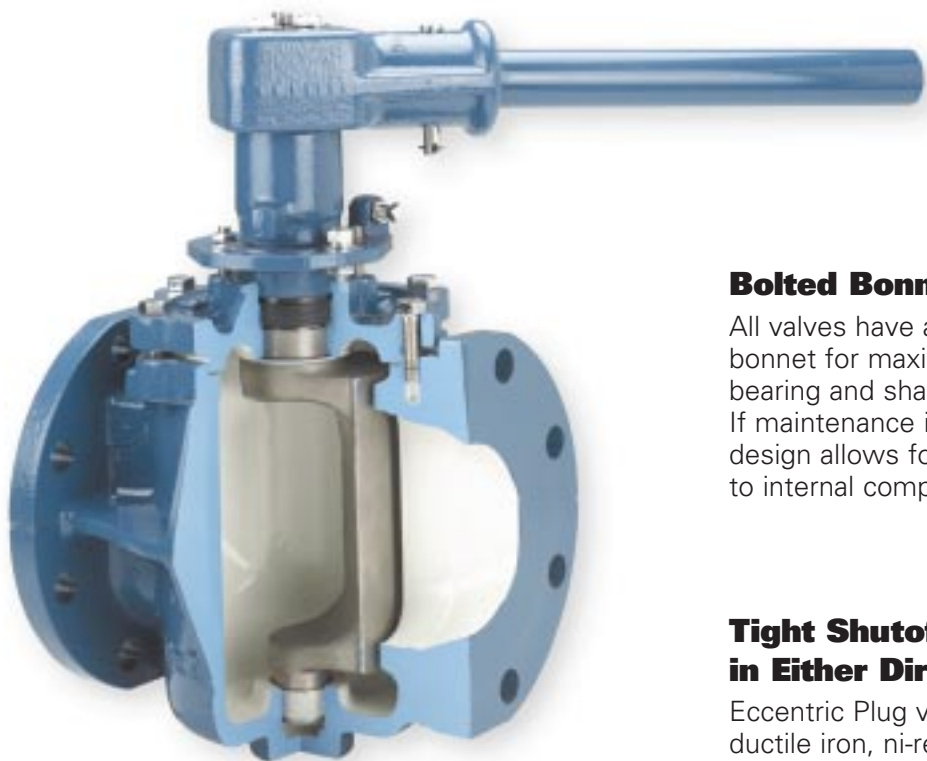
As the plug closes, it moves toward the seat without scraping the seat or body walls so there is no plug binding or wear.

Flow is still straight through, making the throttling characteristic of this valve ideal for gases, liquids and slurries.

In the closed position, the plug makes contact with the seat. When furnished with resilient facing, the plug is pressed firmly into the seat for dead-tight shutoff. Eccentric plug and seat design ensures lasting shutoff because the plug continues to be pressed against the seat until firm contact is made.



**Note:** The cross-section view shows an installation for clean water and gas. Refer to installation instruction for sewage application.



### **One-Piece Cast Plug**

Eccentric Plug valves feature a plug with upper and lower shaft in a one-piece casting. The straight plug face allows for inherent linear flow characteristic. Because the plug can rotate out of flow, it allows for increased plug life in abrasive applications.

### **Bolted Bonnet**

All valves have a rugged, one-piece bolted bonnet for maximum strength. It houses upper bearing and shaft seals to increase cycle life. If maintenance is ever required, the bonnet's design allows for easy disassembly and access to internal components.

### **Tight Shutoff with Pressure in Either Direction**

Eccentric Plug valves constructed of cast iron, ductile iron, ni-resist, carbon steel and stainless steel with resilient-faced plugs provide drip-tight shutoff on wet service applications at pressure differentials up to the full valve rating.

Valves constructed of aluminum or bronze with resilient-faced plugs provide dead-tight shutoff on wet or gas service at pressures up to the full valve rating with pressure against the back of the plug pushing it into the seat.

### **Corrosion-Resistant Nickel Seat**

Welded-in nickel seats are standard in all cast iron valves, 4–72" (100–1800mm) Ni-Resist valves, and in 4–36" (100–900mm) carbon steel valves. Unlike iron or nickel alloy iron seats, the thick welded nickel overlay provides excellent resistance to corrosion and damage. The raised seat ensures the plug only contacts the nickel, and prolongs the life of resilient plug facings.





### Wide Size Range

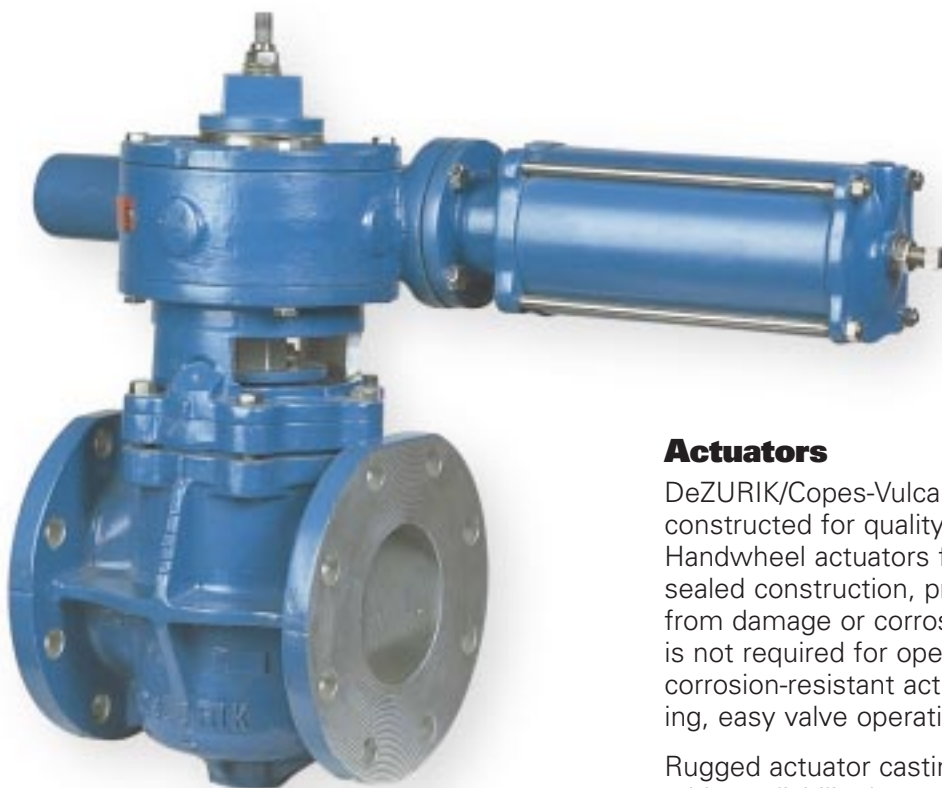
DeZURIK/Copes-Vulcan offers the broadest Eccentric Plug line with 26 standard sizes from .5-72" (25-1800mm).

### Wide Choice of Body Materials

DeZURIK/Copes-Vulcan offers the most complete line of eccentric body materials to meet the requirements of a broad range of applications up to 285 psi (1965 kPa). Materials available include cast iron, ductile iron, acid-resistant bronze, ni-resist, carbon steel, stainless steel, Alloy 20, Monel and Hastelloy C.

Clean interior design and straight-through flow allow high maximum capacity with minimum pressure drop.





## Actuators

DeZURIK/Copes-Vulcan manual actuators are constructed for quality and performance. Handwheel actuators feature enclosed and sealed construction, protecting moving parts from damage or corrosion. Continual lubrication is not required for operation ease. Heavy-duty, corrosion-resistant actuator bearings provide lasting, easy valve operation and overall reliability.

Rugged actuator castings, gears and shafts also add to reliability by ensuring permanent alignment of moving parts for smooth operation.

Cylinder actuators provide long life and reliability to meet the requirements of a wide range of control applications. They feature heavy-duty construction of gears, pistons and piston rods, ensuring smooth operation for better throttling. Enclosed and sealed construction protects internal actuator parts from dirt and corrosion. Lubrication is not required, even on continuous throttling applications. Cylinder actuators are available as double-acting or spring-return.



## Accessories

DeZURIK/Copes-Vulcan offers a full line of extensions and accessories, including enclosed neck extensions, extended operating nuts, floorstands, valve boxes, floor boxes, solenoid valves, switches, speed control valves, positioners and motor operators.

## Products

**Maxum™ Rotary Control Valves** – Sizes 1-12" (25-300mm) for highly erosive services. Features high throttling accuracy and four flow capacity ranges.

**Eccentric Plug Valves** – Sizes 0.5-72" (15-1800mm) in a wide choice of materials and resilient plug facings.

**HP Butterfly Valves** – Sizes 2-48" (50-1200mm) for applications to 740 psi (5100 kPa) plus Intelli-Seal™ extra-tight metal, fire tested and PTFE seated models.

**V-Port Ball Valves** – Sizes 1-20" (25-500mm), pressures to 740 psi (5100 kPa) and temperature ratings to 1000°F (537°C). Flanged and flangeless designs.

**Resilient Seated Butterfly Valves** – Sizes 2-36" (50-900mm) in two styles with 175 and 225 psi (1210 and 1550 kPa) pressure ratings and wafer and lugged body styles.

**AWWA Butterfly Valves** – Sizes 3-120" (80-3000mm). Meets AWWA C504 standards.

**3- & 4-Way Plug Valves** – Sizes 3-16" (80-400mm) for shutoff and switching applications plus a variety of body materials.

**Metal Seated Full Port Ball Valves** – Sizes 2-12" (50-300mm) are designed for trouble-free operation in digester blow-down applications and for handling corrosive liquids, gases and abrasive slurries.

**Precision Electric Control Valves** – Unmatched control accuracy provides up to 16,000 discrete repeatable throttling positions in 90° plug rotation. Accepts analog or digital signals. Sizes 4-20" (100-500mm).

**Permaseal® Plug Valves** – Sizes 0.5-6" (15-150mm) in ANSI Class 150 and 300 ratings. Body styles include 2-Way, 3-Way, jacketed, double block and bleed and flush through for corrosive and high temperature applications.

**Knife Gate Valves** – Rugged designs for corrosive and abrasive service on liquids, slurries and dry materials. Pressures to 150 psi (1030 kPa) and sizes 2-72" (50-1800mm).

**Consistency Transmitters** – Rotating sensor, AccuTrax™ blade sensor, open type and pan type chambers for pulp and paper consistency control applications.

**Unival Ported Gate Valves** – Sizes 2-48" (50-1200mm) for scaling, corrosive and abrasive services. Reinforced elastomer sleeve forms bubble-tight seal flush with the wall of the pipe.

**Cage Guided Globe Control Valves** – Sizes 1-16" (25-400mm) with pressure ratings to ANSI 1500 plus single-seated and balanced construction, low-noise and anti-cavitation trim options.

**3-Way Globe Control Valves** – Sizes 0.5-16" (15-400mm) with pressure ratings to 600 psi (4130 kPa) for mixing and diverting services. Medium and light-duty models available for applications to Class 125 and for low pressure, mixing applications.

**Angle Control Valves** – Sizes 1-8" (25-200mm) for applications involving viscous or flash-flow process or slurries.

**Single- or Double-Seated Globe Valves** – Heavy-duty top and bottom guided valves offer high accuracy and high rangeability. Medium-duty, skirt-guided valves provide rugged reliability or tight shutoff. For low pressure applications, a single-seated, stem guided model is available.

**Low Flow Valves** – Single-seated globe style in sizes 0.5-2" (15-50mm) for low and ultra-low flow applications.

**High Pressure Valves** – For pressures up to 6000 psig (41340 kPa), in single-seated angle or straight-through designs.

## Sales and Service

DeZURIK/Copes-Vulcan representatives are located in major cities throughout the world.  
For the name of the representative nearest you, contact:

**Web Site:** [www.dezurikcopesvulcan.com](http://www.dezurikcopesvulcan.com) **E-Mail:** [info@dezurikcopesvulcan.com](mailto:info@dezurikcopesvulcan.com)

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**COPES-VULCAN®**  
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*DeZURIK/Copes-Vulcan reserves the right to incorporate our latest design and material changes without notice or obligation. Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing by DeZURIK/Copes-Vulcan. Certified drawings are available upon request.*